

**ABSTRACT OF THE DISCLOSURE**

An NMR flow cell assembly comprises: a flow cell for holding a sample; inlet and outlet sample tubing providing fluidic access to the flow cell; and a pair of connectors connecting the inlet and outlet sample tubing to the flow cell. Each connector is secured to the flow cell by an adhesive region. The adhesive region is separated from the interior of the flow cell by an annular adhesive-separation barrier extending between the flow cell and said each of the pair of connectors. The barrier may be formed by an O-ring, or ridges formed in the flow cell wall. In another embodiment, the flow cell and connector have matching helical threads, and a sealing barrier such an O-ring or ferrule is placed along a transverse end face of the flow cell, such that the sealing force on the flow cell is longitudinal and/or outward.